FIG. 1

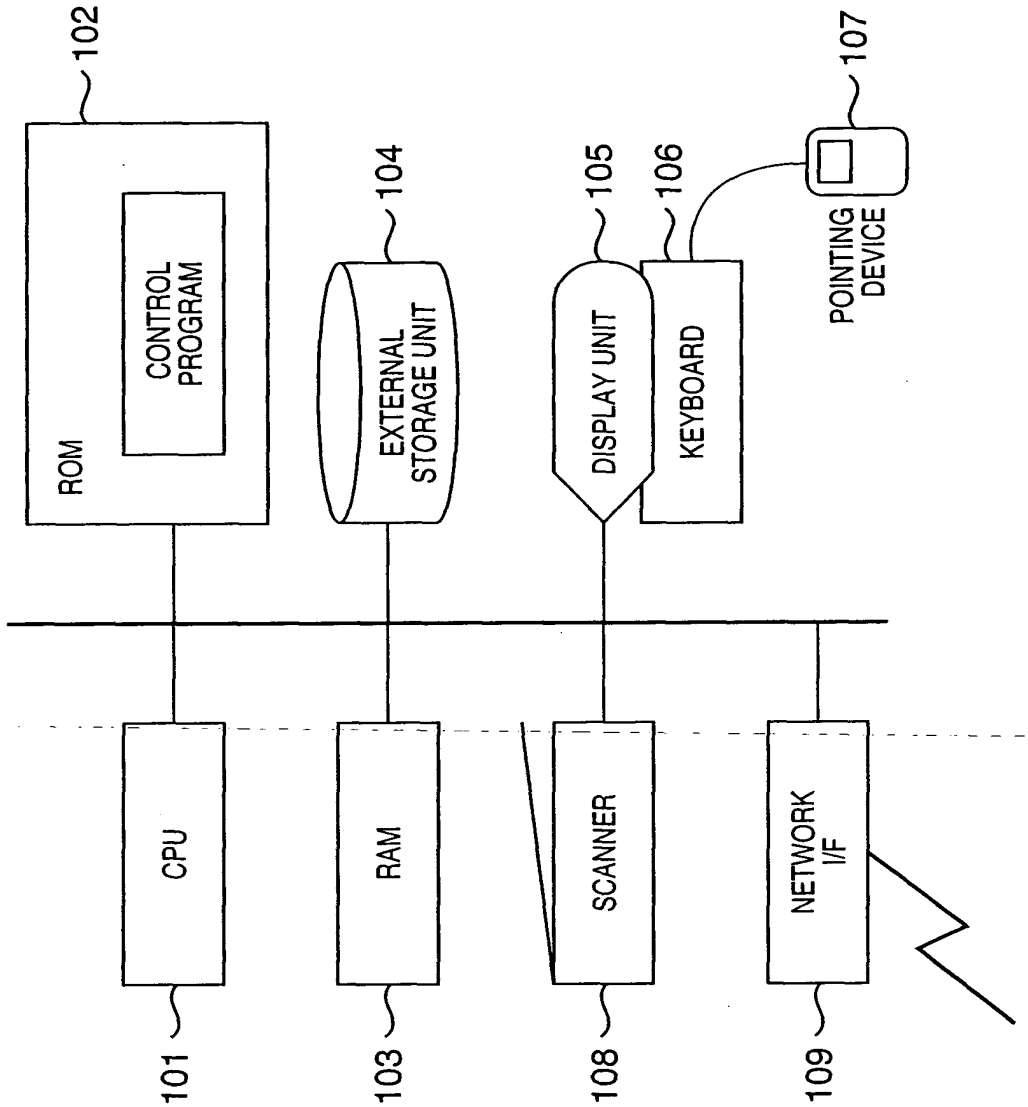

102
ROM
CONTROL PROGRAM
104
EXTERNAL STORAGE UNIT
105
DISPLAY UNIT
106
KEYBOARD
107
POINTING DEVICE
CPU
RAM
SCANNER
NETWORK I/F
101
103
108
109

FIG. 2

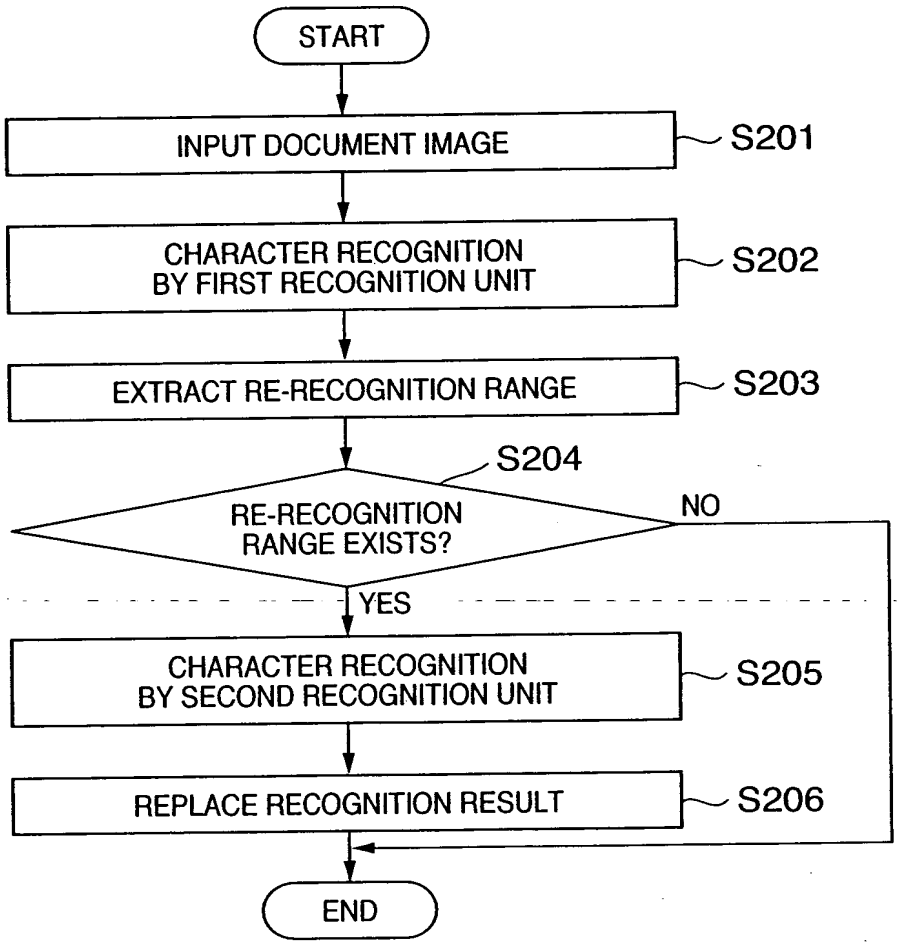

START
INPUT DOCUMENT IMAGE
S201
CHARACTER RECOGNITION BY FIRST RECOGNITION UNIT
S202
EXTRACT RE-RECOGNITION RANGE
S203
S204
RE-RECOGNITION RANGE EXISTS?
NO
YES
CHARACTER RECOGNITION BY SECOND RECOGNITION UNIT
S205
REPLACE RECOGNITION RESULT
S206
END

FIG. 3

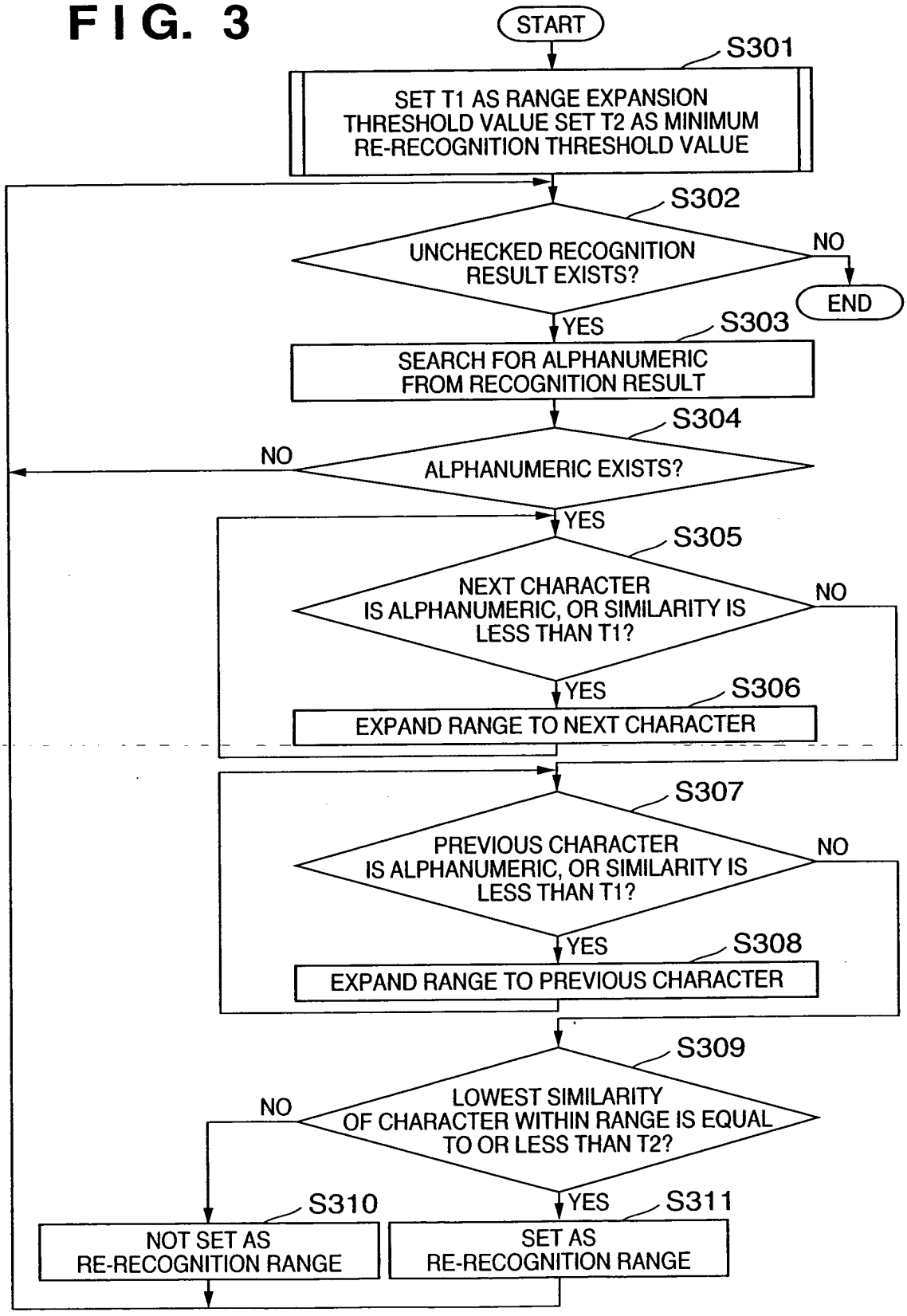

START
S301
SET T1 AS RANGE EXPANSION THRESHOLD VALUE SET T2 AS MINIMUM RE-RECOGNITION THRESHOLD VALUE
S302
UNCHECKED RECOGNITION RESULT EXISTS?
NO
END
YES
S303
SEARCH FOR ALPHANUMERIC FROM RECOGNITION RESULT
S304
NO
ALPHANUMERIC EXISTS?
YES
S305
NEXT CHARACTER IS ALPHANUMERIC, OR SIMILARITY IS LESS THAN T1?
NO
YES
S306
EXPAND RANGE TO NEXT CHARACTER
S307
PREVIOUS CHARACTER IS ALPHANUMERIC, OR SIMILARITY IS LESS THAN T1?
NO
YES
S308
EXPAND RANGE TO PREVIOUS CHARACTER
S309
NO
LOWEST SIMILARITY OF CHARACTER WITHIN RANGE IS EQUAL TO OR LESS THAN T2?
YES
S310
NOT SET AS RE-RECOGNITION RANGE
S311
SET AS RE-RECOGNITION RANGE

FIG. 4

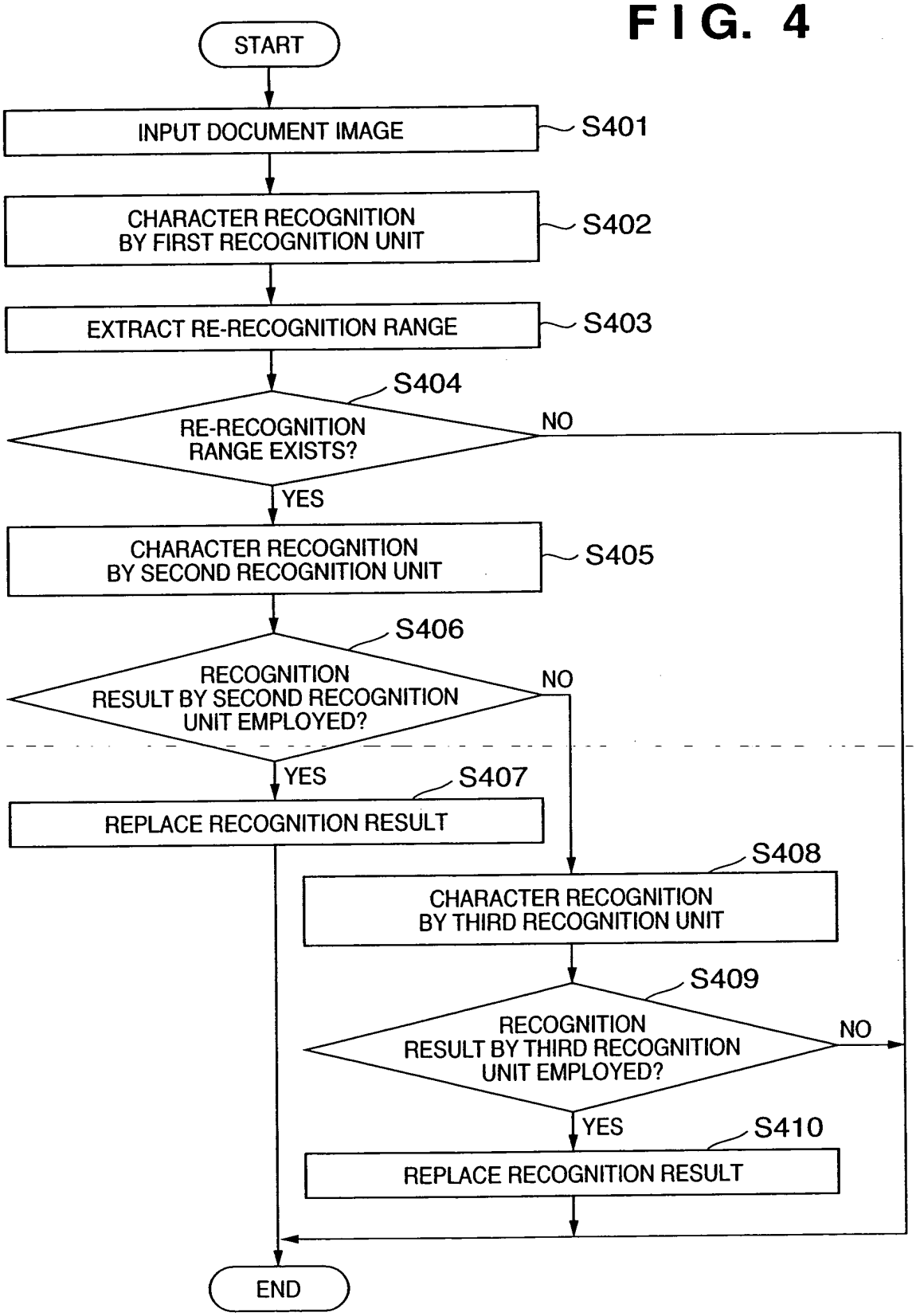

START
INPUT DOCUMENT IMAGE
S401
CHARACTER RECOGNITION BY FIRST RECOGNITION UNIT
S402
EXTRACT RE-RECOGNITION RANGE
S403
S404
RE-RECOGNITION RANGE EXISTS?
NO
YES
CHARACTER RECOGNITION BY SECOND RECOGNITION UNIT
S405
S406
RECOGNITION RESULT BY SECOND RECOGNITION UNIT EMPLOYED?
NO
YES
S407
REPLACE RECOGNITION RESULT
S408
CHARACTER RECOGNITION BY THIRD RECOGNITION UNIT
S409
RECOGNITION RESULT BY THIRD RECOGNITION UNIT EMPLOYED?
NO
YES
S410
REPLACE RECOGNITION RESULT
END

FIG. 5

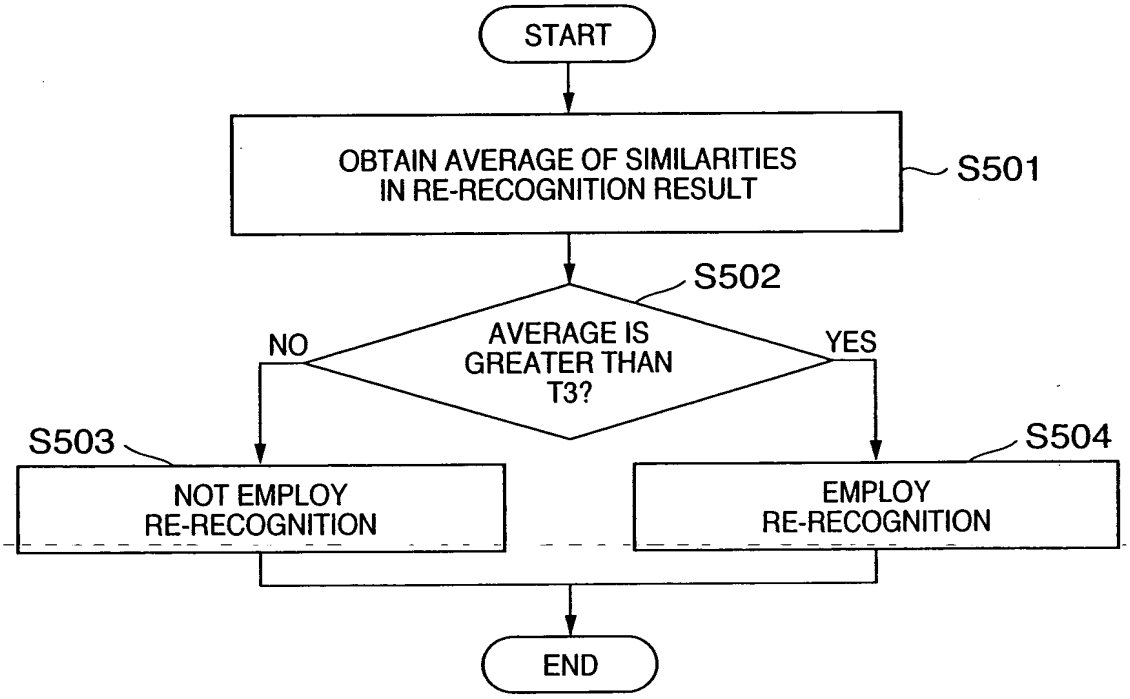

START
OBTAIN AVERAGE OF SIMILARITIES IN RE-RECOGNITION RESULT
S501
S502
AVERAGE IS GREATER THAN T3?
NO
YES
S503
NOT EMPLOY RE-RECOGNITION
S504
EMPLOY RE-RECOGNITION
END

FIG. 6

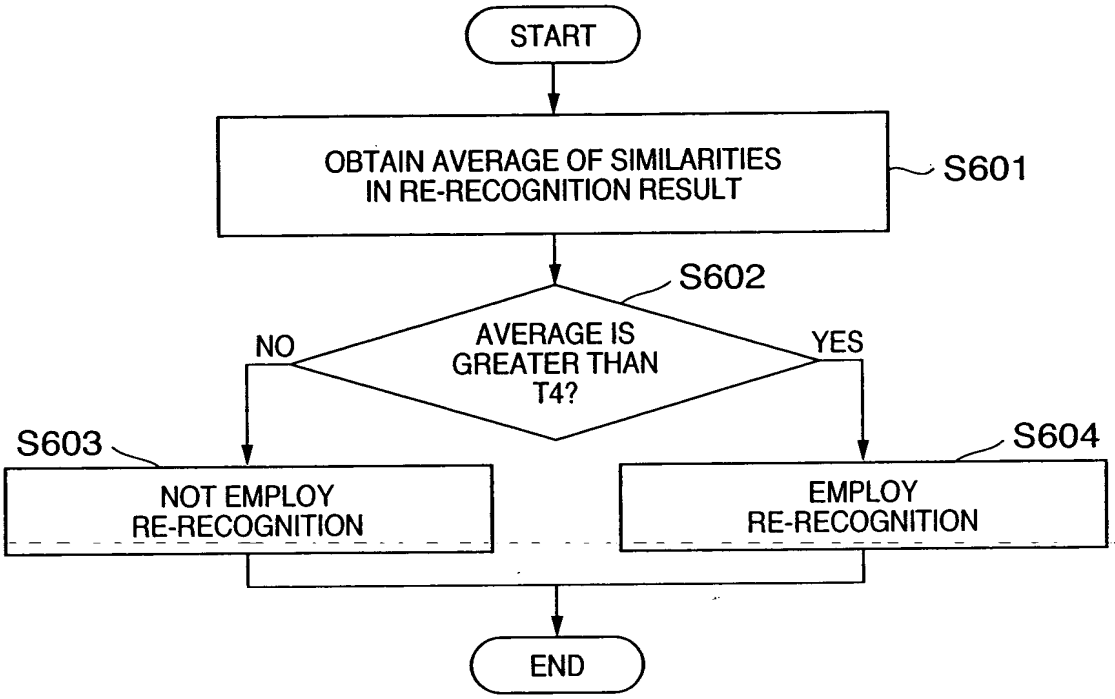

START
OBTAIN AVERAGE OF SIMILARITIES IN RE-RECOGNITION RESULT
S601
S602
AVERAGE IS GREATER THAN T4?
NO
YES
S603
NOT EMPLOY RE-RECOGNITION
S604
EMPLOY RE-RECOGNITION
END

FIG. 7

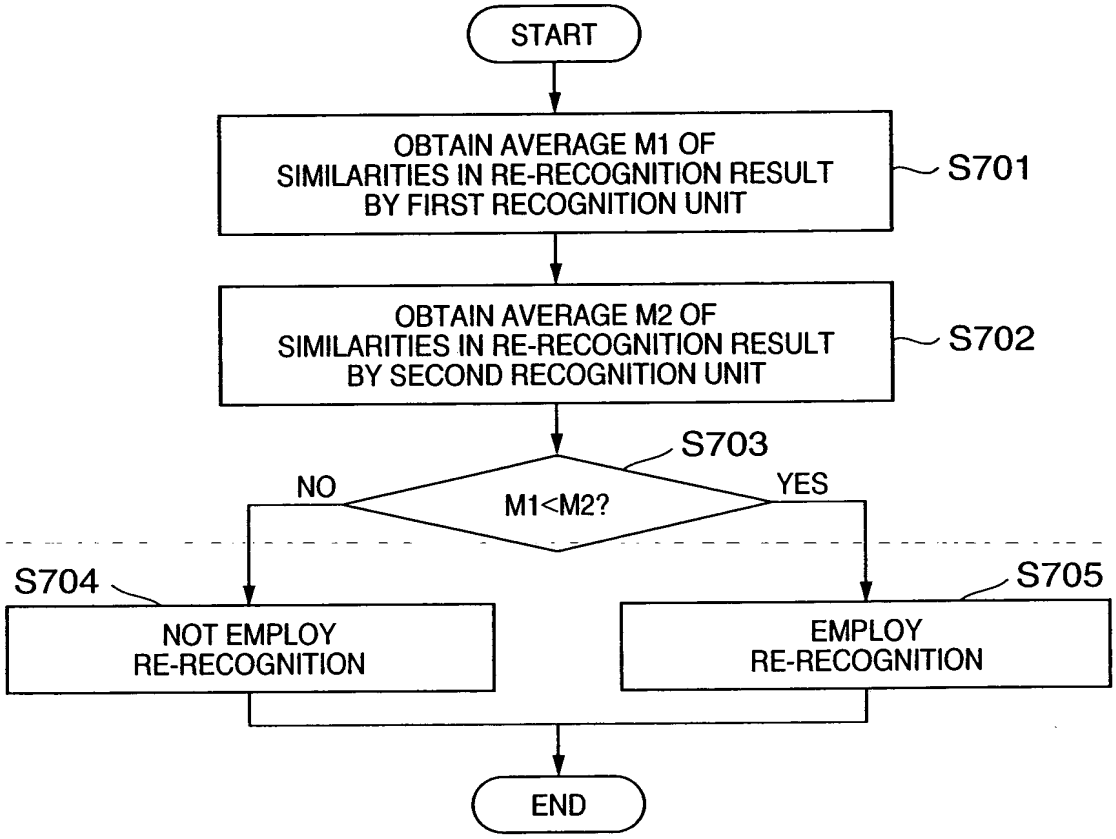
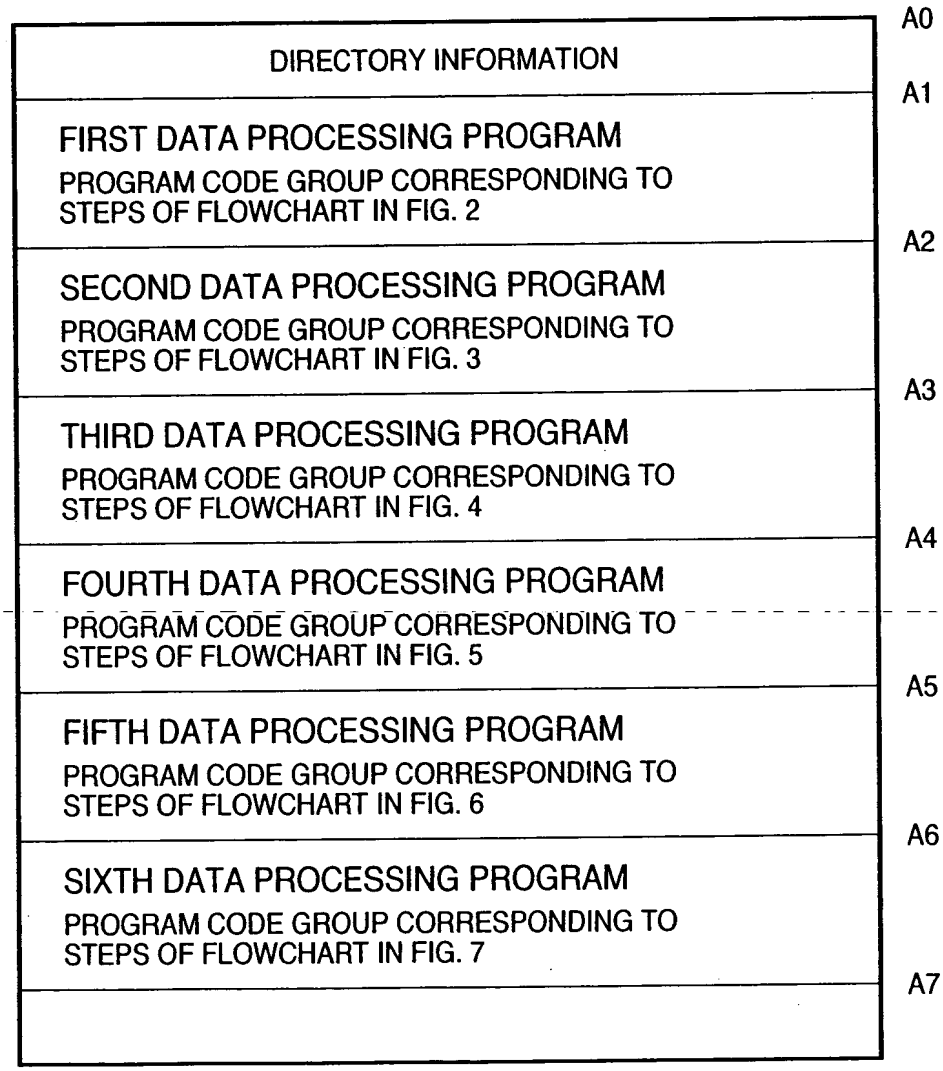

START
OBTAIN AVERAGE M1 OF SIMILARITIES IN RE-RECOGNITION RESULT BY FIRST RECOGNITION UNIT
S701
OBTAIN AVERAGE M2 OF SIMILARITIES IN RE-RECOGNITION RESULT BY SECOND RECOGNITION UNIT
S702
S703
M1<M2?
NO
YES
S704
NOT EMPLOY RE-RECOGNITION
S705
EMPLOY RE-RECOGNITION
END

FIG. 8


A0
DIRECTORY INFORMATION
A1
FIRST DATA PROCESSING PROGRAM
PROGRAM CODE GROUP CORRESPONDING TO STEPS OF FLOWCHART IN FIG. 2
A2
SECOND DATA PROCESSING PROGRAM
PROGRAM CODE GROUP CORRESPONDING TO STEPS OF FLOWCHART IN FIG. 3
A3
THIRD DATA PROCESSING PROGRAM
PROGRAM CODE GROUP CORRESPONDING TO STEPS OF FLOWCHART IN FIG. 4
A4
FOURTH DATA PROCESSING PROGRAM
PROGRAM CODE GROUP CORRESPONDING TO STEPS OF FLOWCHART IN FIG. 5
A5
FIFTH DATA PROCESSING PROGRAM
PROGRAM CODE GROUP CORRESPONDING TO STEPS OF FLOWCHART IN FIG. 6
A6
SIXTH DATA PROCESSING PROGRAM
PROGRAM CODE GROUP CORRESPONDING TO STEPS OF FLOWCHART IN FIG. 7
A7

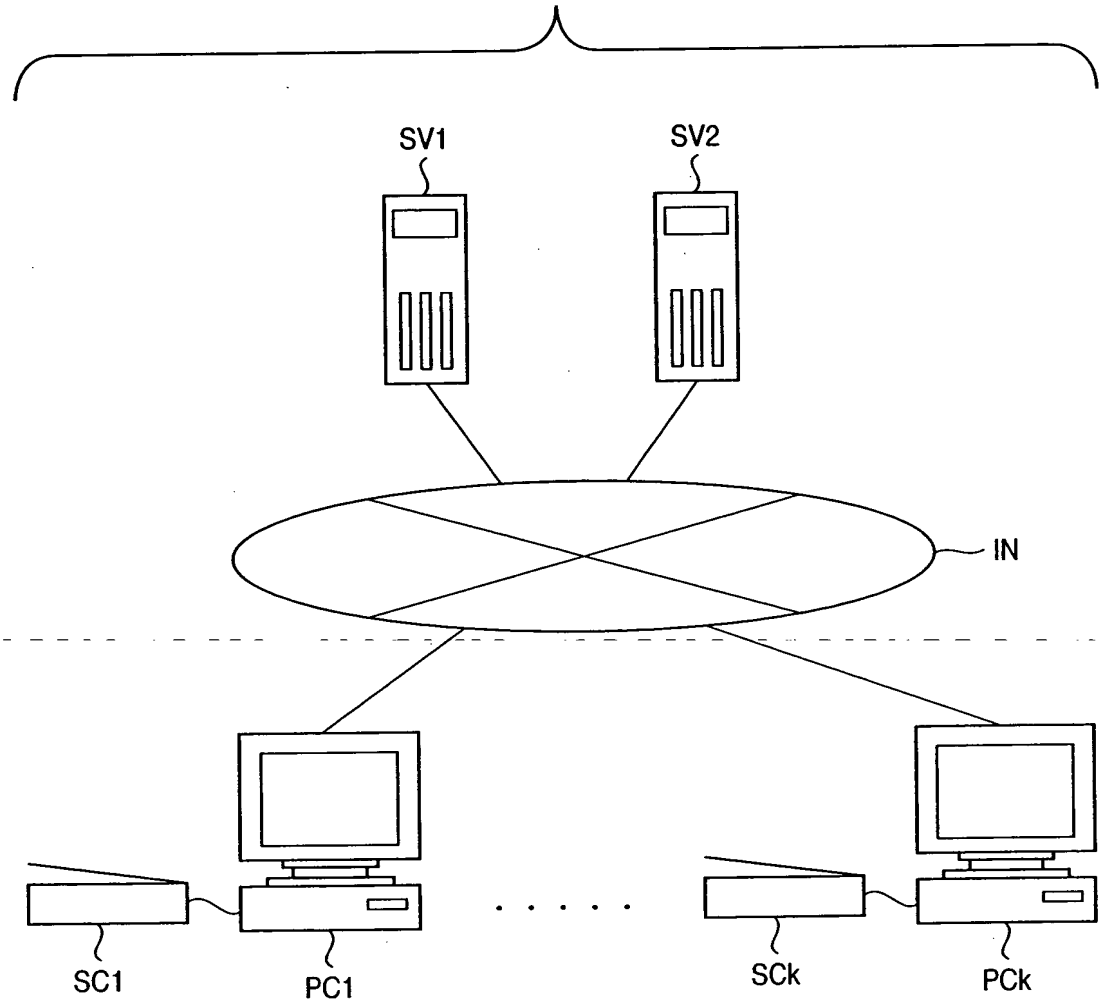



FIG. 9